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ABSTRACT

Operation CHAMP (Children's Health and Movement Program), a pilot cooperative effort between the Salt Lake City School District and the University of Utah, surfaced out of the need for schools to develop sound physical education programs and the desire of the university to establish a model program where it could train future physical education teachers, conduct inservice for district teachers, and complete research studies. The basic goals of the project are in harmony with current elementary and physical education philosophy concerning developmental needs of children, teaching methodology, and evaluation. The program centers around the idea that every child is a winner when the child does his or her best. Tasks and experiences are structured to allow for more successes than failures. Increased fitness levels and student motivation are major objectives of the program. Scores on "challenges" (rather than tests) are color coded for health fitness and motor performance goals. Profiles are created as a means of assessing the extent to which a child's health fitness and motor performance levels are being achieved. (CB)

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Color Coding Children's Fitness Performance

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COLOR CODING CHILDREN'S FITNESS PERFORMANCE

How often have you tried to get a kindergarten child to give a maximum performance on a standing broad jump, only to have the child look at you with a puzzled expression and ask "Why"? Or how often have you started a first grade class on a nine minute run on a carefully planned route, only to find a few minutes later children scattered here and there off the designed route busily engaged in chasing butterflies or picking four leaf clovers?

The above situations are not unusual. What is unusual is our expectation that the five to nine year old child will naturally be motivated and interested in maintaining/increasing his or her fitness level. When we consider the cognitive interests and needs of the young child, we realize that this is an unrealistic expectation (Piaget, 1970). It isn't that young children are incapable of understanding fitness, but rather that they don't see any real value in that understanding. Not only do young children see themselves as immortal (Corbin, 1986) but also they are experiencing a growing, energetic body that continually is providing new and exciting challenges in the form of creative play.

National fitness tests for youngsters have been administered to children for the last two decades (AAHPER-NEA, 1958; California State Department of Education, 1958; Clarke, 1959; Kirchner, 1959). These tests have been very instrumental in providing descriptive data to interested teachers, administrators, parents, and sometimes students. The fact that test scores are declining rather than improving (Ross, 1958; Updyke, 1984) is indicative that the tests, and/or the information regarding fitness, are not motivational enough for children to maintain or improve their own fitness levels. It has been only recently that health fitness norms have been available for children as young as five years of age (AAHPERD, 1980).

When one considers the many problems inherent in fitness testing young children, it is easy to understand why these norms have traditionally been unavailable. Problems such as those listed below are encountered by the practitioner and must be understood for successful fitness testing.

1. Lack of interest. Unless a child can be convinced that running for nine minutes will be fun, he or she sees no value in the effort. A child's world is motivated by fun and play. If fitness test were fun, children would be more motivated to participate.
2. Lack of motivation. Trying to convince children that fitness is important because it may increase longevity (Paffenbarger, 1986). or make them bigger and stronger, is not motivating for young children. They are already big and strong! Just ask them. They also see themselves as immortal, death being something that happens to "old" people, and is, therefore, not a concern to them (Corbin, 1986).
3. Lack of relevant feedback. After testing young children, to tell them that they ran the 50 yard dash in five seconds, or jumped 5'4", or that they scored in the 78th percentile is also irrelevant information. Time, distance, and scaling are concepts that are still rather abstract to them (Piaget, 1970). They do know that recesses are too short, its a long way to take the garbage out, and that a 'smile face' on their paper means they did a good job. Parents might benefit more than the children from knowing the fitness scores of their youngsters. Maybe the parent, rather than the child, will

best understand the results of the child's fitness test.

4. Lack of ease of administration. When testing the young child, many problems emerge such as scoring. For example, it is certainly a much more difficult task to test the young child, as he/she can't score each other as older children can. Also to administer tests to these children has always required more parent (or other) help, longer testing sessions, and far more organizational planning.

These problems and others have been addressed through a pilot cooperative effort between Salt Lake City School District and the University of Utah. Operation C.H.A.M.P. (Children's Health and Movement Program) surfaced out of a need of the schools for sound physical education, and the desire of the University of Utah physical education department to establish a model elementary physical education program where it could train future teachers, conduct inservice education for district teachers, and complete research studies (Beveridge, 1983). The basic goals of operation C.H.A.M.P. are in harmony with current elementary and physical education philosophy concerning developmental needs of children, teaching methodology and evaluation. The program centers around the idea that every child is a winner when he/she does his/her best. Tasks and experiences are structured to allow for more successes than failures.

One of the primary objectives of Operation C.H.A.M.P. is the development of a sound physical education program which leads to increased fitness levels of all participants. In the development of the fitness test, Children's Health and Motor Performance Challenge (C.H.A.M.P. Challenge), initiated September, 1982, it was important to identify test items that

measured components of physical and motor fitness, and at the same time were interesting and motivating to primary grade children. The aspects measured included hip flexibility, shoulder flexibility, abdominal strength and endurance, arm and shoulder strength, cardiovascular endurance, agility, leg power and speed. It was emphasized to the children that these items were 'challenges' rather than tests, which are often perceived by children as a stressful and/or threatening experience. Most of the challenges were not themselves unique, however the categorization of each subjects score into a color zone for each challenge was unique in that it gave instant feedback to both the recorder and the participant. The design, and modifications of the original measuring instruments also provided valuable information.

The general range of scores on the separate challenges for each grade were graduated so that scores would fall into five zones. The zones were given color codes of red, blue, green, yellow, and white, with the red zone representing the highest achievement scores and the white zone the lower achievement scores. Blue, green, and yellow respectively were levels two, three, and four of the performance scale. Descriptive words for performance in each color were also used as motivational tools: Red Hot, True Blue, Mean Green, Mellow Yellow, and Bright White.

Individual health fitness and motor performance challenges were named and designed to utilize the five color categories. Chart I shows the challenge names and purpose of each.

Insert Chart 1 about here

Although the test battery, named the C.H.A.M.P. Challenge, remains in the final stages of development, explained below are two of the test items that have successfully met the authors' criteria of being practical to administer, motivational to the young child and fun.

One challenge that was easy to administer and provided motivation to subjects through immediate self assessment was The River Jump, using the standing long jump concept. A rubber backed carpet strip designating the starting line and subsequent color areas was used to measure performance. The child jumped toward the red zone attempting to land with both feet within a color zone. During the pilot testing, one first grade child who had been instructed in the previous trials "jump as far as you can" asked the question: "Now would you like to see me jump in the red?" He promptly did so.

Perhaps the greatest difficulty in fitness testing comes in the measurement of cardiovascular endurance. Lack of experience, poor motivation and space restrictions all add to the dilemma. In the Runathon, a nine minute run/walk measure of cardiovascular endurance, several ideas were used in an attempt to get more accurate and consistent scores. The child ran/walked around a 50 yard square circuit marked every ten yards by cones (See Diagram 1). After completing two laps of the circuit, the child

Insert Diagram 1 about here

was handed a colored token. It was found that to try to give a token after the first lap was impractical because the children were still running in "a pack". After one lap they started to spread out making distribution of tokens an easier and efficient task. A token was then given for each

example, six tokens and the fourteenth cone would equal yardage of 1540 yards. According to the C.H.A.M.P. Challenge Fitness Battery, a seven year old female with the above score would place in the Blue Color Zone.

Some of the original challenges were temporarily eliminated for various reasons. Among these was the Moon Jump, described here for its uniqueness. This special test instrument consisting of a horizontal bracketed pipe with adjustable vertical height increments was designed to measure leg power. Six different colored yarn covered sponge balls were suspended by varying lengths of twenty pound fish line from the pipe. The test instrument was adjusted to the child's reaching height by touching the lowest multicolored ball. The child was then challenged to jump and touch the next ball. The last five balls were colored white, yellow, green, blue, and red respectively. This was a favorite test with the children, many of whom shouted "Can we do it again!" However, technical fabrication problems precluded its use as a valid instrument at the present time.

If color coding the challenges is indeed motivational, and children find challenges fun, the next inherent problem is to devise a system of recording the results that is easy to administer and provide an effective feedback mechanism for the child, teacher, and parent. The authors believe a color coded profiling system is a very effective process to encourage participation, motivation, and at the same time encourage optimal performance in testing or challenge situations.

The theoretical basis for the color coded system is to allow the children to discover an awareness of the body and be challenged by what it can do. A healthy body with graceful, efficient movement is a building block for self-esteem, which in turn, is a building block for

self-knowledge. Self knowledge is the primary foundation for awareness, and awareness is key to the intellectual development, and so on. It is upon self knowledge that all else is built. A colored coded profiling system provides the child with immediate self knowledge in the physical domain (see Chart ?).

Insert Chart 2 about here

The profile is a means of assessing the extent to which the child's health fitness and motor performance levels are being achieved. The profile provides a method of graphically portraying a child's strengths and weaknesses so that a picture of overall performance can be obtained. Since number scores are often times meaningless to a young child, scores are equated into color zones which represent percentile performances. Notice that the profile is divided into components of health fitness and motor performance.

The color coded system represents a raw score converted to a color zone based upon normative standards. The normative standards for innovative challenge items were developed from data collected over a three year period of time, while normative standards for traditional test items were obtained from the literature (AAHPERD, 1976, 1980). Recording a color zone is a much easier administrative process than recording a specific score. In addition, the child receives immediate and relevant feedback of his/her performance.

The purpose of the colors is to encourage competition with the self rather than competition with other children's performances. When a child

realizes the goal setting system of the color arrangement, he/she becomes intrinsically motivated to reach a higher level of performance and in the process is indirectly encouraged to perform at an optimal level. If a child performs at a "bright white" or "mellow yellow" level in any of the component areas, then he/she is encouraged to participate in a prescribed routine of appropriate fitness activities.

The graphic presentation of the connected dot-to-dot technique of color coded performance readily provides the child, teacher, and parent with an understandable representation of the child's health fitness and motor performance. It's quick, it's easy, and it's color created. "Color me, "RED HOT"!

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CHART 1
C.H.A.M.P. CHALLENGES

Health Fitness

Sit and Stretch
Back Scratcher
Tummy Tucks
Runathon

Purpose

Hip flexibility
Shoulder flexibility
Abdominal strength and
endurance
Cardiovascular endurance

Motor Performance

Treasure Grab
River Jump
Moon Jump
The Getaway
Stepping Stones
Crab Walk

Purpose

Agility
Leg power
Leg power
Running speed
Dynamic balance
Arm and shoulder strength
and endurance

Diagram 1

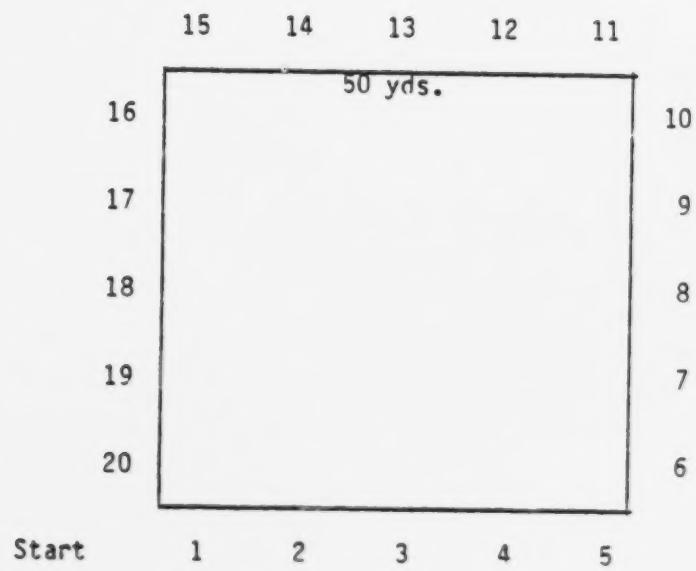


CHART 2

CHAMP CHALLENGE PERFORMANCE PROFILE

NAME JASON DATE APRIL 18, 1986
 AGE 9 SEX M
 HEIGHT 53" WEIGHT 60 lbs.

Components	Performance Scale				
	BRIGHT WHITE	MELLOW YELLOW	MEAN GREEN	TRUE BLUE	RED HOT
A. Health Fitness					
1. Flexibility					
a. SIT AND STRETCH (hip region)	0	0	0	0	0
b. BACK SCRATCHER (shoulder region)	0	0	0	0	0
2. Muscular Strength/Endurance					
a. TUMMY TUCKS (stomach region)	0	0	0	0	0
3. Cardiovascular Endurance					
a. RUNATHON (heart and lungs)	0	0	0	0	0
4. Body Composition					
a. FAT FINDER (percent body fat)	0	0	0	0	0
B. Motor Performance					
1. Agility					
a. TREASURE GRAB	0	0	0	0	0
2. Leg Power					
a. RIVER JUMP	0	0	0	0	0
b. MOON JUMP	0	0	0	0	0
3. Speed					
a. THE GET AWAY	0	0	0	0	0